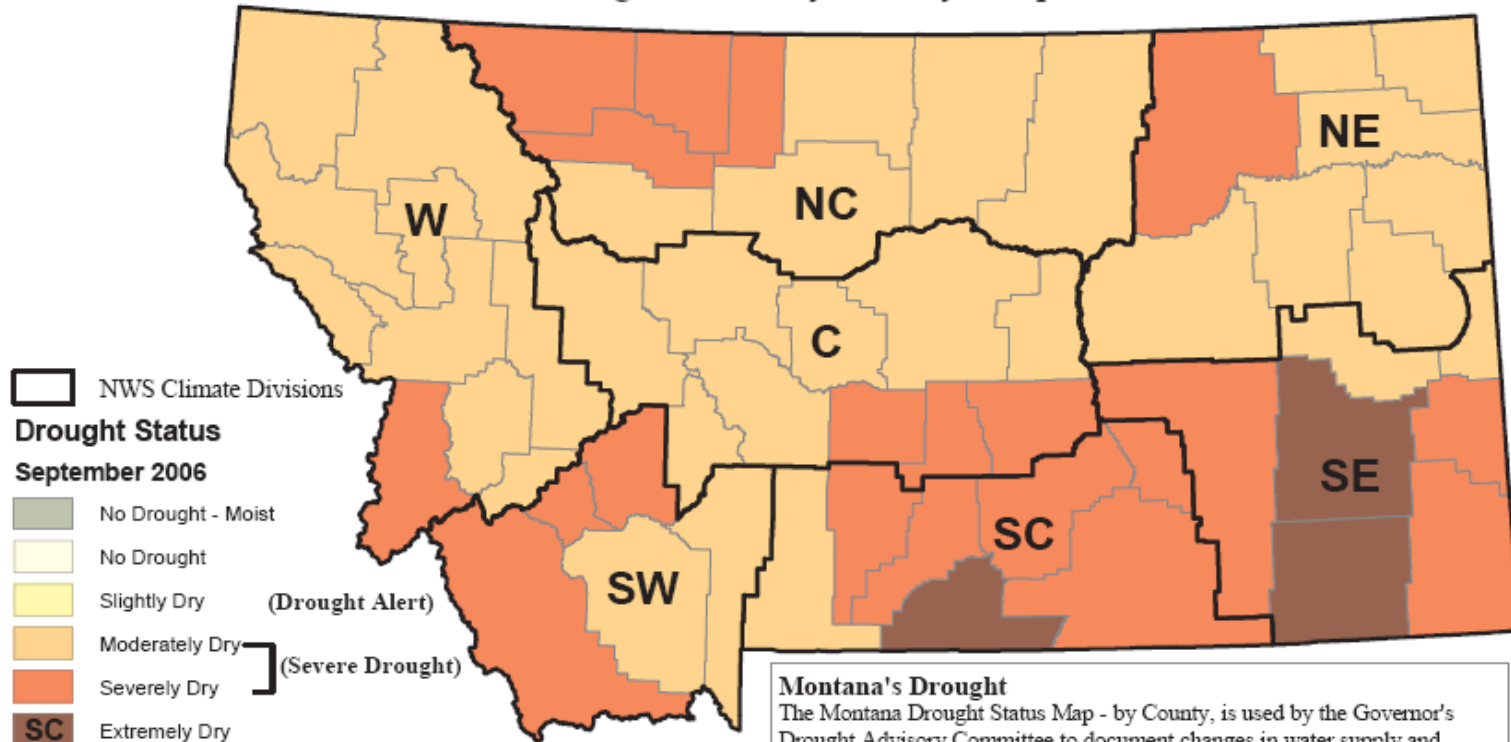


Montana Drought Status - September

Montana Drought Status by County - September 19, 2006



Drought Alert - Governor's Drought Advisory Committee strongly encourages local officials to convene local drought committees.

Severe Drought - Local officials should have local drought planning efforts underway or should reconvene the local drought committee at the earliest opportunity.

For recommended responses, see the Drought Response Plan.



<http://dnrc.state.mt.us/drought/>

Montana's Drought

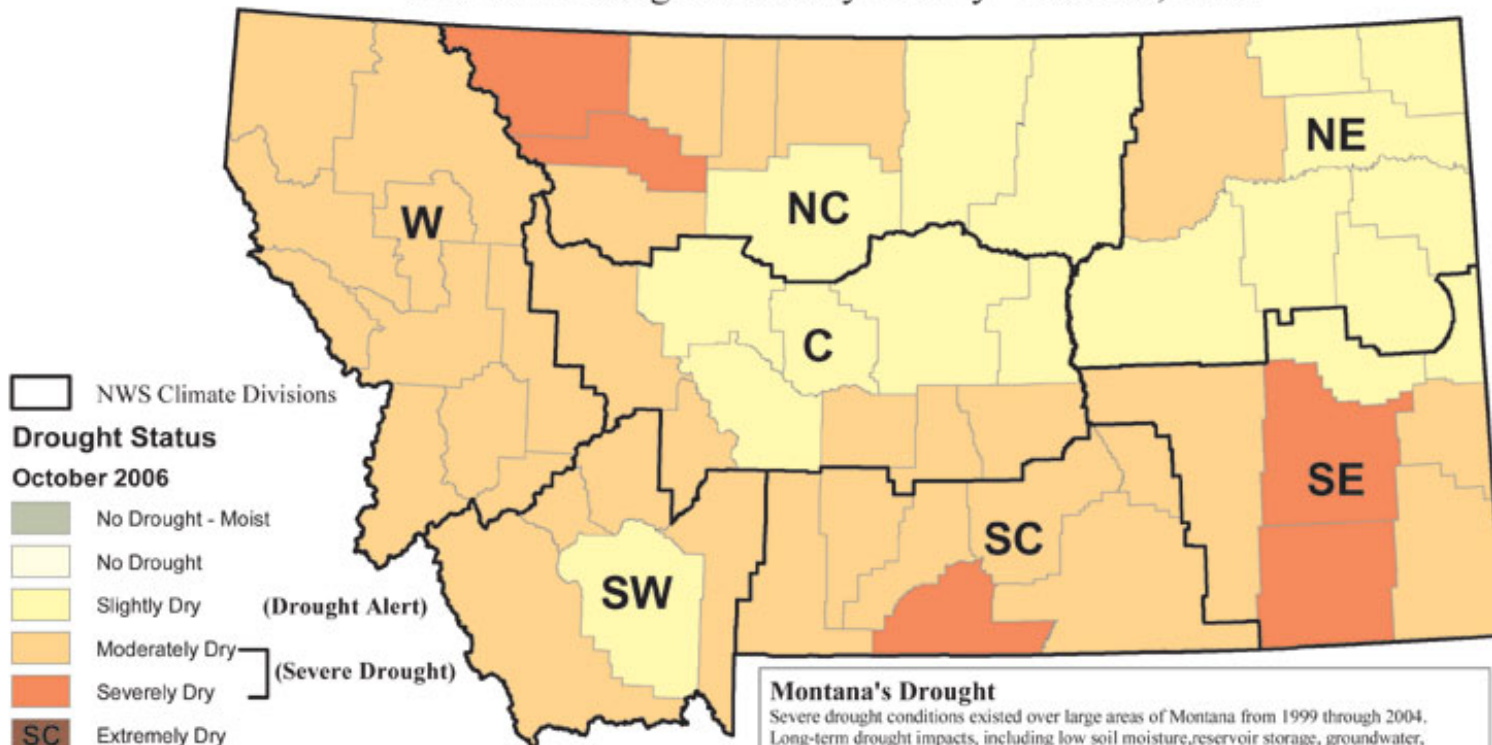
The Montana Drought Status Map - by County, is used by the Governor's Drought Advisory Committee to document changes in water supply and moisture conditions on a monthly basis and to alert counties so timely responses are possible. The descriptive categories of the Drought Status map correspond with known and anticipated levels of economic hardship on water uses and moisture dependence due to drought. Recovery from up to six consecutive years of severe drought conditions continues across large areas of Montana. High temperatures, declining streamflow, and wildfire are common in any given summer in Montana and do not necessarily indicate the presence of drought.

For more information regarding the determination of the drought status or the activities of the Drought Advisory Committee visit:

<http://www.dnrc.state.mt.us/Drought/Index.html>

Montana Drought Status - October

Montana Drought Status by County - October, 2006



Drought Alert - Governor's Drought Advisory Committee strongly encourages local officials to convene local drought committees.

Severe Drought - Local officials should have local drought planning efforts underway or should reconvene the local drought committee at the earliest opportunity.

For recommended responses, see the Drought Response Plan.

Montana's Drought

Severe drought conditions existed over large areas of Montana from 1999 through 2004. Long-term drought impacts, including low soil moisture, reservoir storage, groundwater, and streamflow continue to persist in some areas where short-term relief was experienced periodically over the course of 2005-2006.

The Governor's Drought Advisory Committee determines a drought status for each Montana County monthly. The drought status map is intended to inform Montanans of water supply and moisture conditions and to alert counties to so they may respond appropriately.

Drought Alert: The Governor's Drought Advisory Committee encourages local officials to organize local drought committees.

Severe Drought: Local drought planning efforts should be underway.

For information about how the drought status maps are determined or to learn more about recommended responses to drought see the Montana Drought Response Plan (<http://nris.state.mt.us/drought/committee/DroughtP.pdf>).



<http://nris.mt.gov/drought/>



<http://drought.mt.gov/>



Governor's Drought Advisory Committee Meeting

October 19, 2006

National Weather Service

Gina Loss

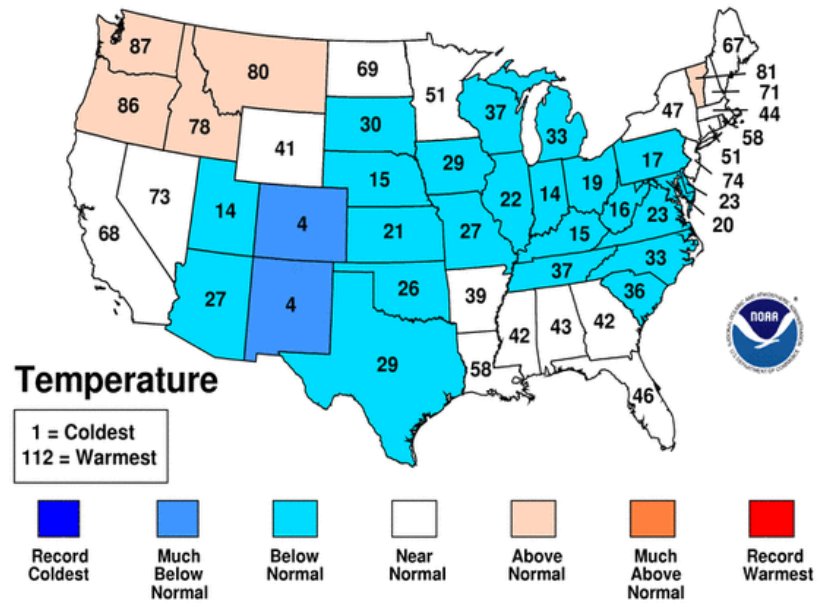


September 2006

Warm with near normal precipitation

September 2006 Statewide Ranks

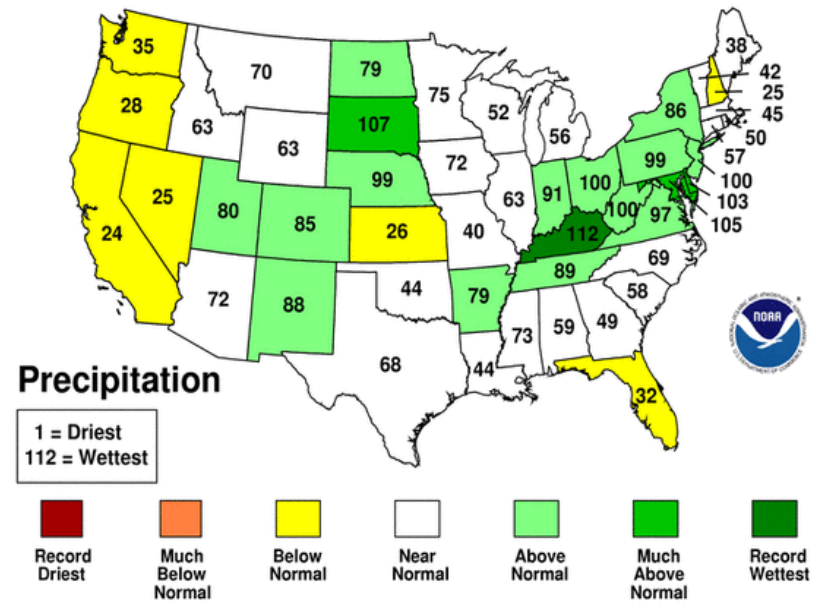
National Climatic Data Center/NESDIS/NOAA



- 33rd warmest of 112 years
- 43rd wettest... 70th driest

September 2006 Statewide Ranks

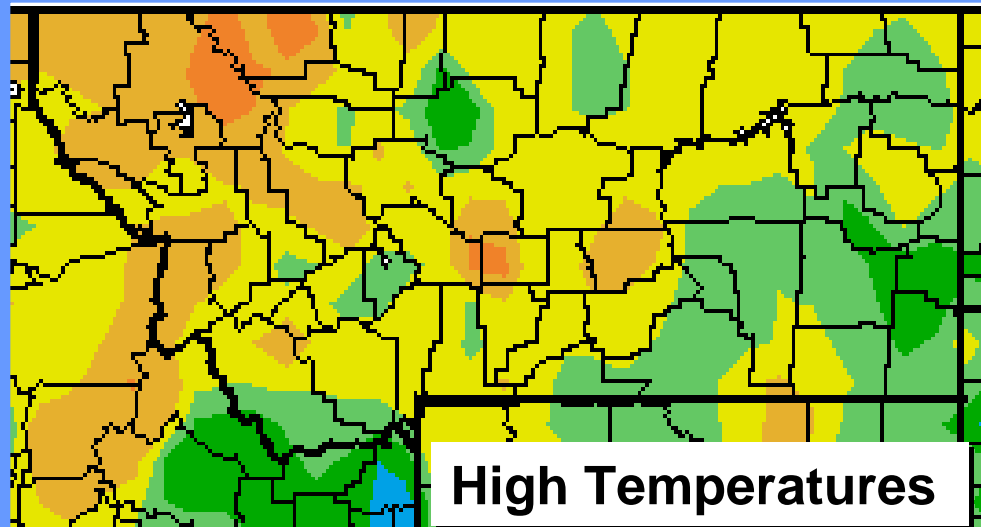
National Climatic Data Center/NESDIS/NOAA



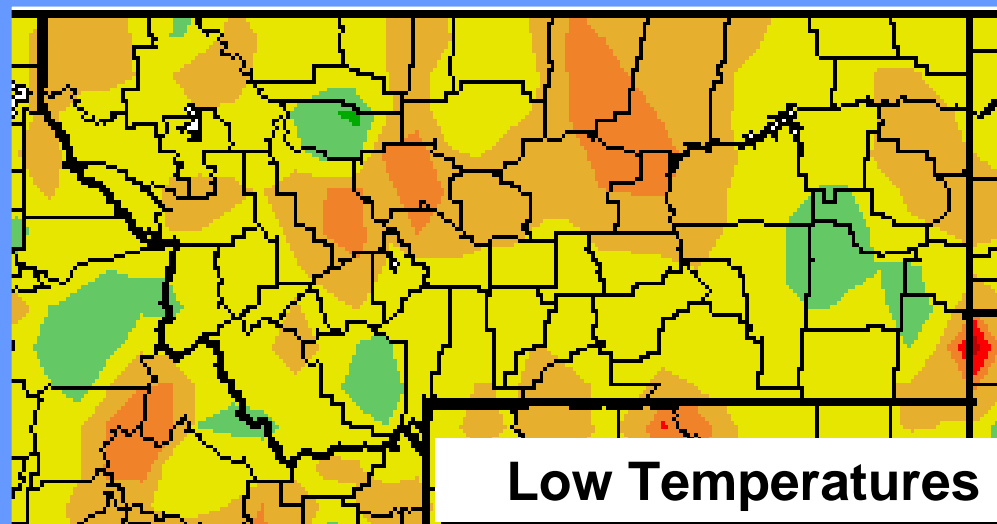


September Temperature Anomalies

September 3 – October 2, 2006

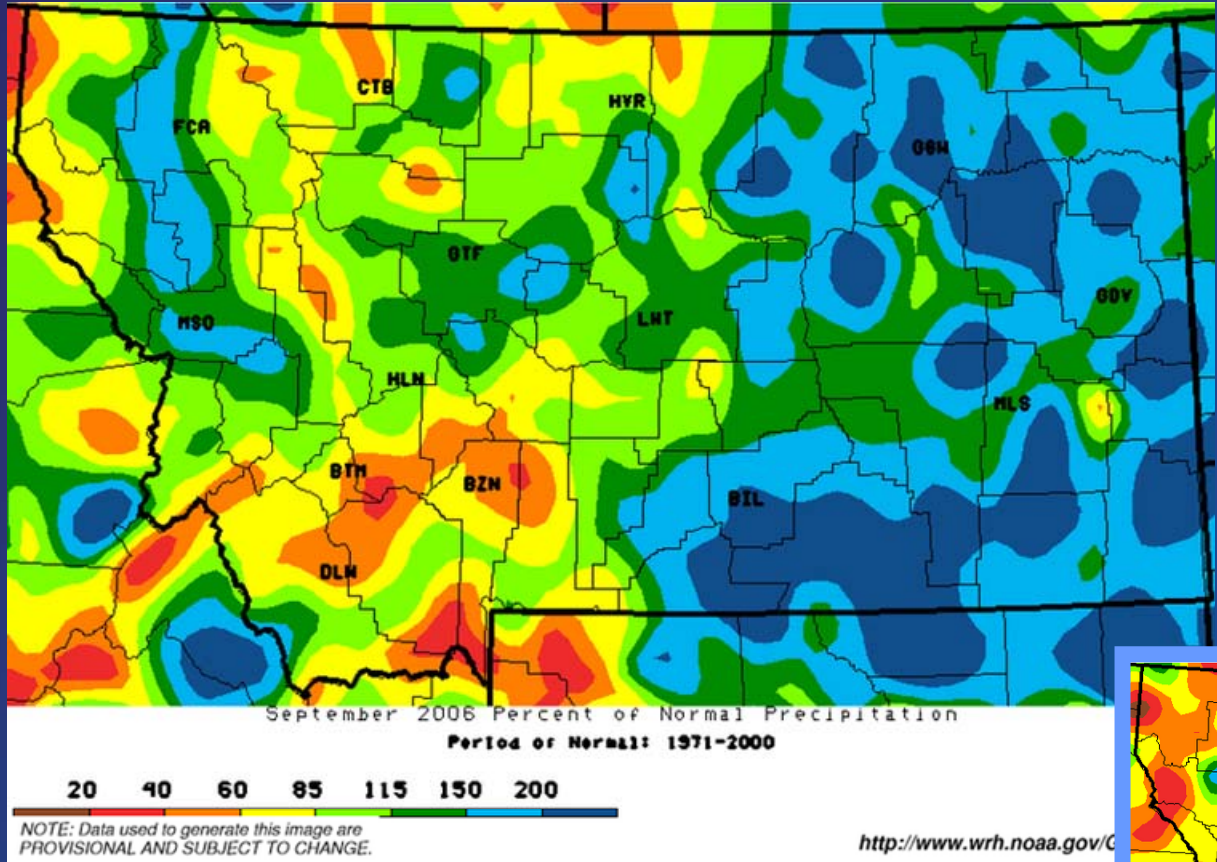


- Highs
 - East of the divide – mostly near normal
 - West of the divide – 2 to 6 degrees above normal
- Lows
 - North – pockets 2 to 6 degrees above normal
 - South – mostly near normal

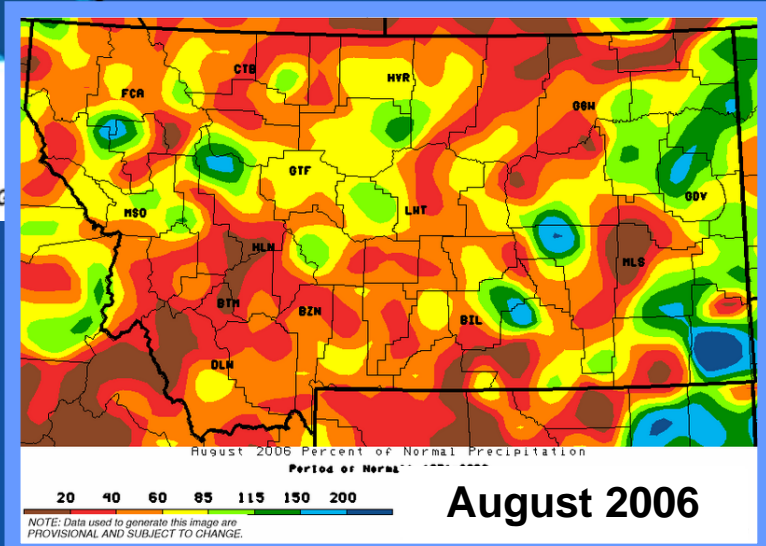




Percent of Normal Precipitation September 2006



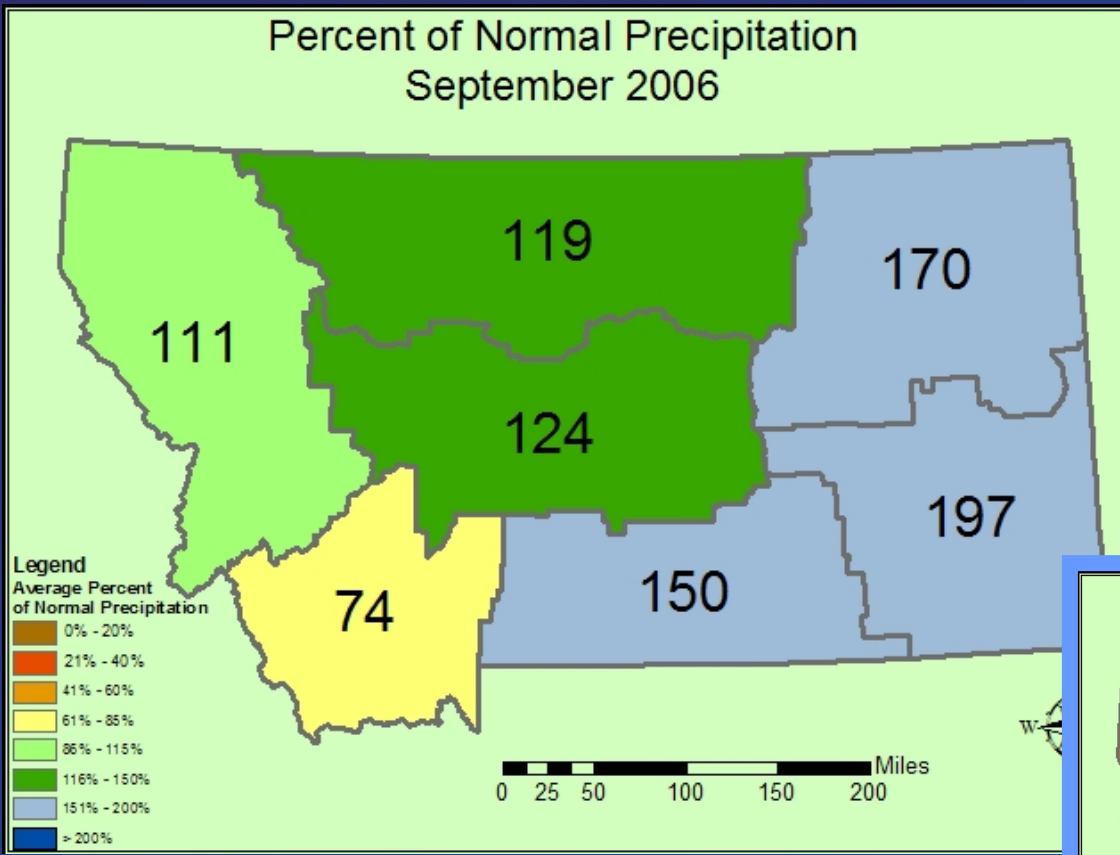
- Most of Montana at least near average
- Most of eastern Montana received more than 150% of normal
- Only isolated areas below normal



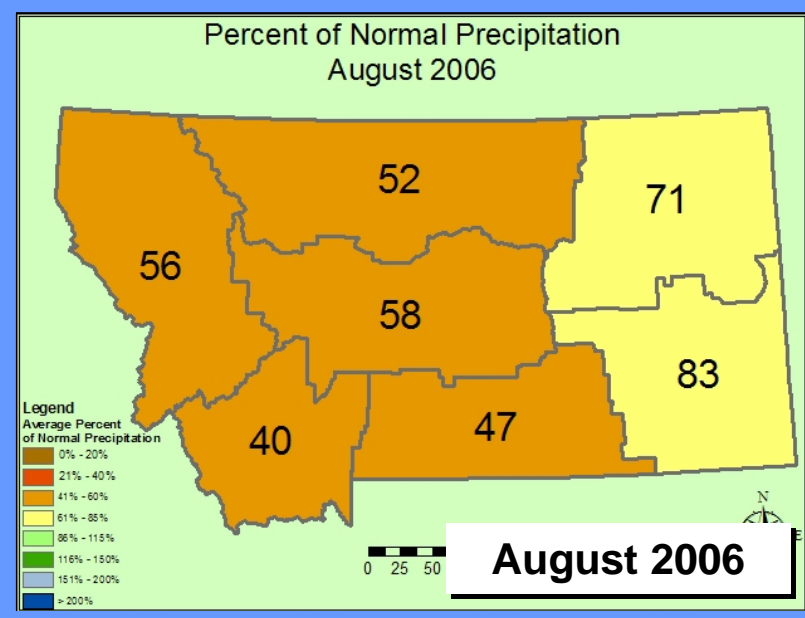


Percent of Normal Precipitation

By Climate Division ~ September 2006



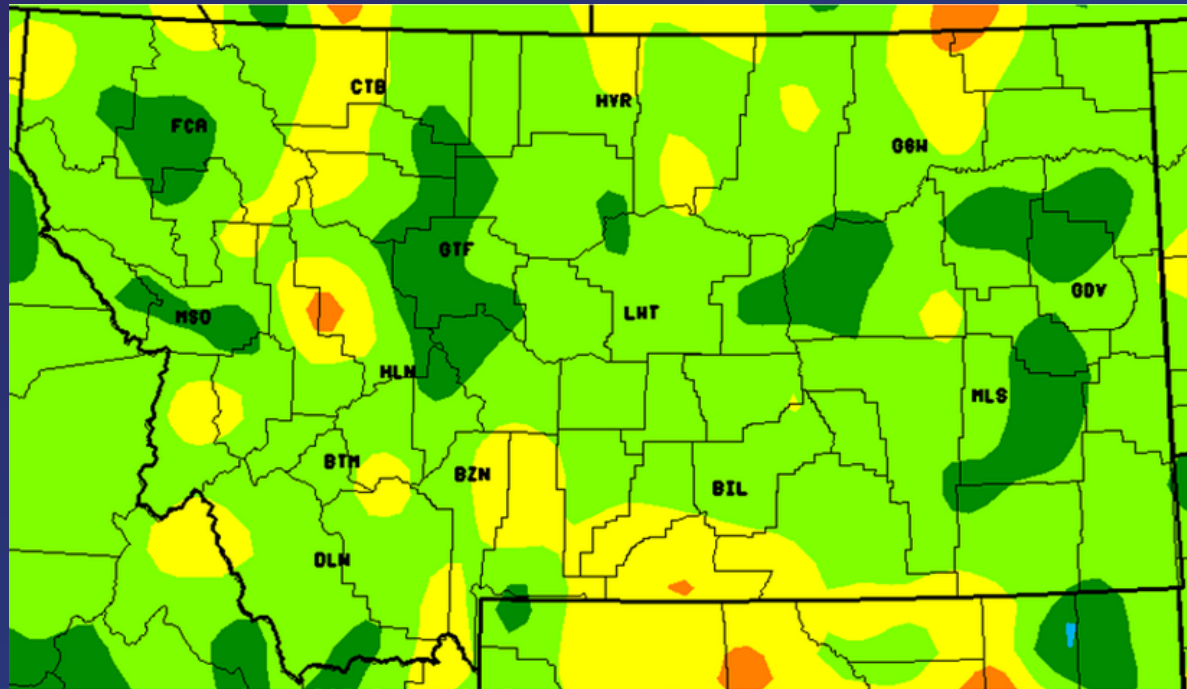
- Five climate divisions above to well above normal
 - North central
 - Central
 - South central
 - Northeast
 - Southeast
- One division near normal
 - West
- One division below normal
 - Southwest





Percent of Normal Precipitation

Water Year 2006



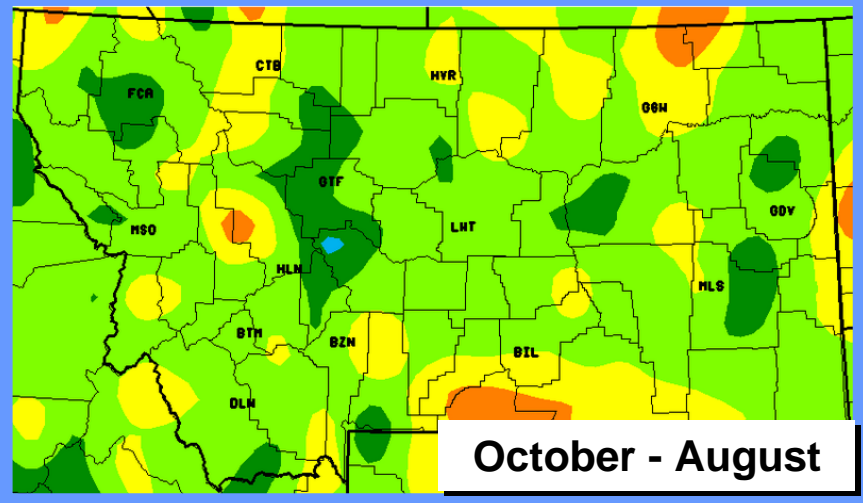
Oct 2005-Sep 2006 Percent of Normal Precipitation
Period of Normal: 1971-2000

20 40 60 85 115 150 200

NOTE: Data used to generate this image are
PROVISIONAL AND SUBJECT TO CHANGE.

<http://www.wrh.n>

- October – September
- Most of Montana ended the water year near normal
 - Small pockets above normal
 - Small pockets below normal

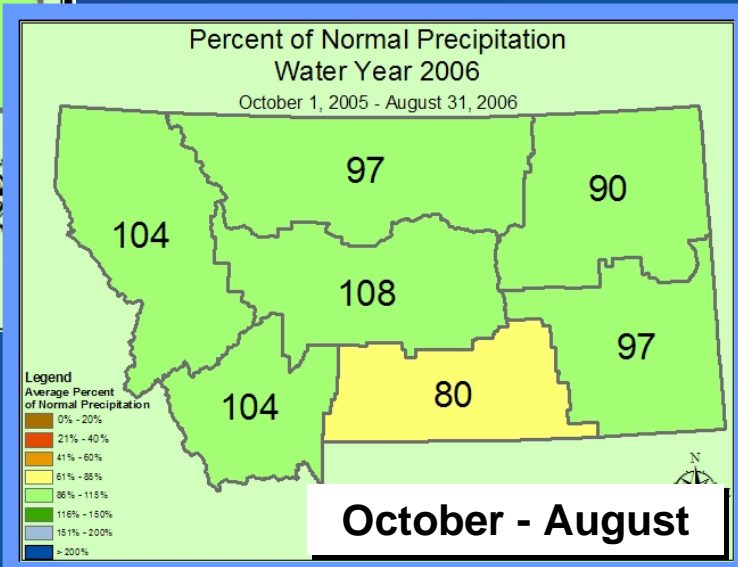
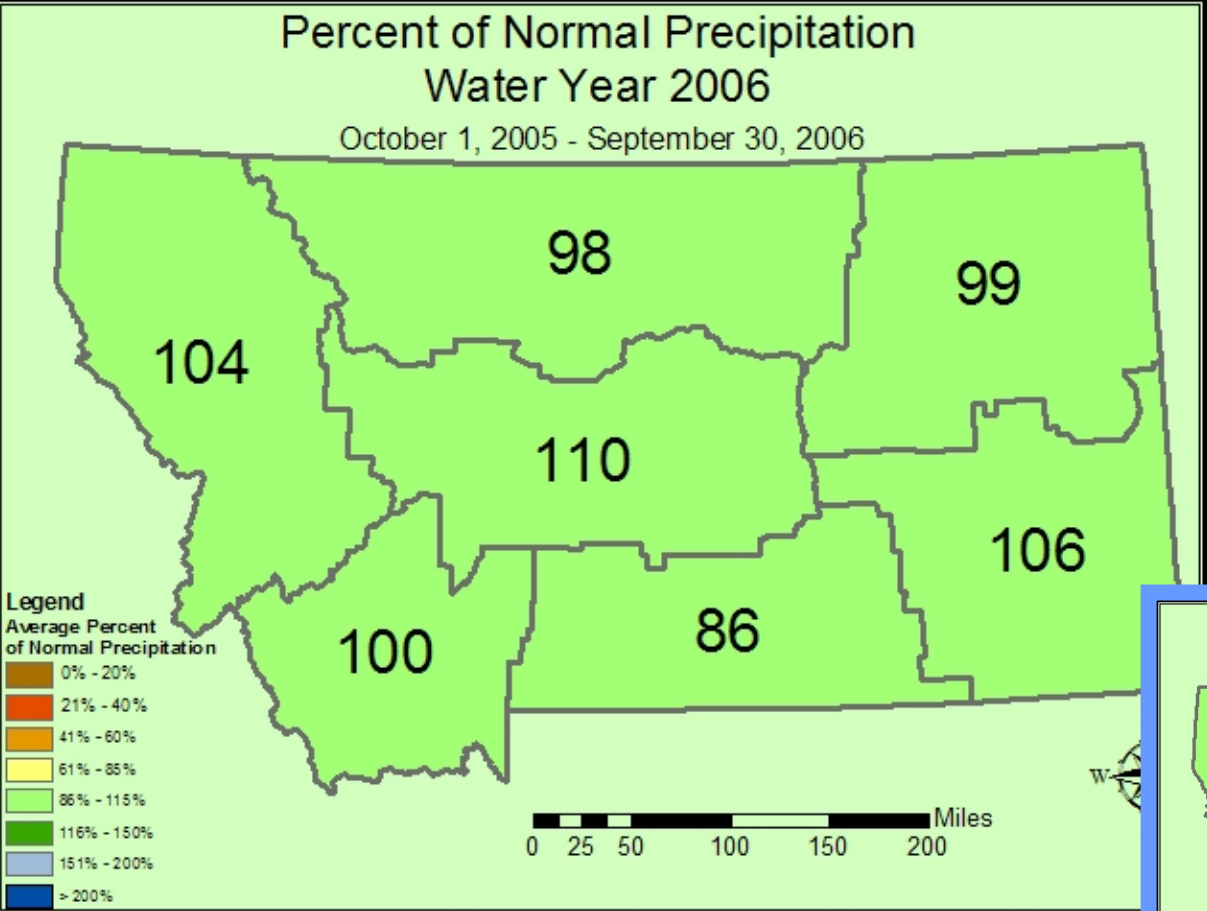


October - August



Percent of Normal Precipitation By Climate Division ~ Water Year 2006

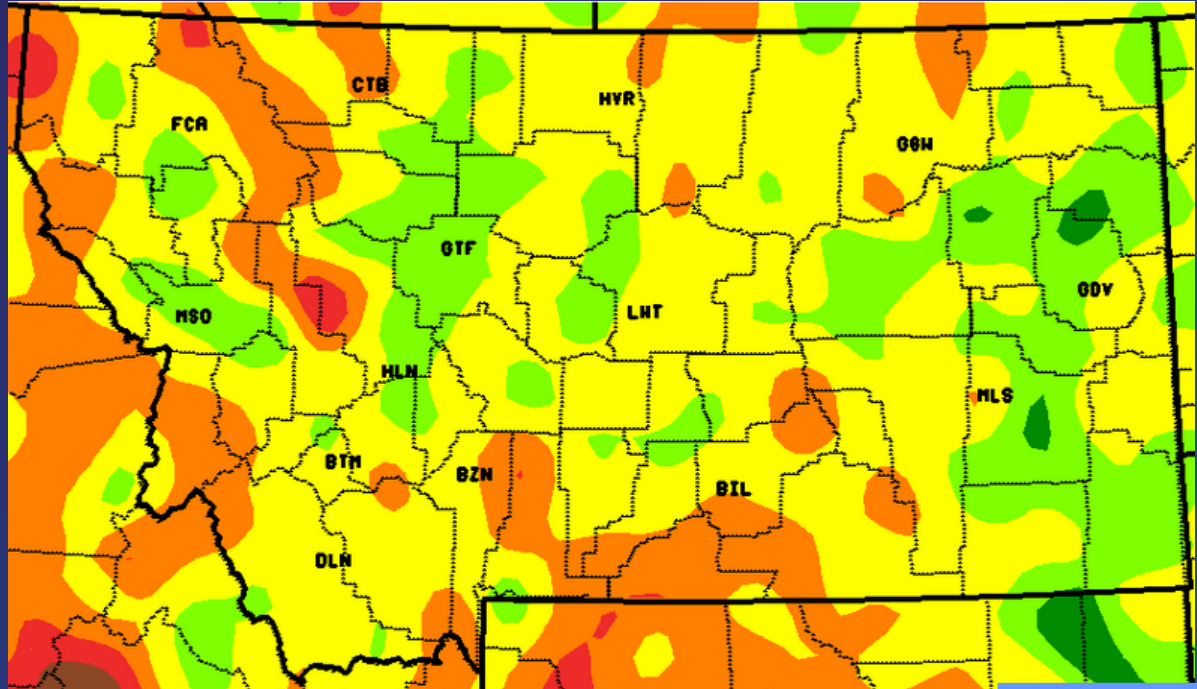
- October – September
- All divisions ended ‘near normal’





Percent of Normal Precipitation

Crop Year 2006



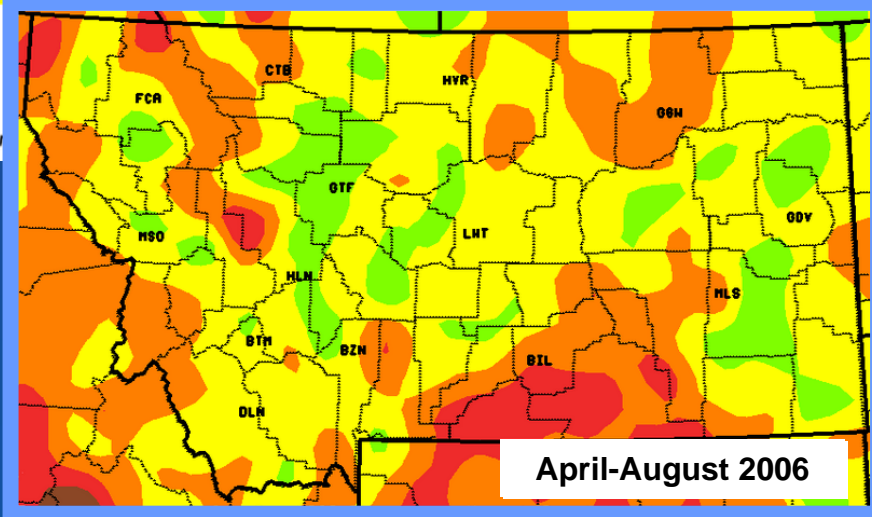
- April – September
- Most of Montana below to well below average
 - *Notable improvement in south central... east and northeast*

Apr-Sep 2006 Percent of Normal Precipitation
Period of Normal: 1971-2000

20 40 60 85 115 150 200

NOTE: Data used to generate this image are
PROVISIONAL AND SUBJECT TO CHANGE.

<http://www.wrh.noaa.gov>

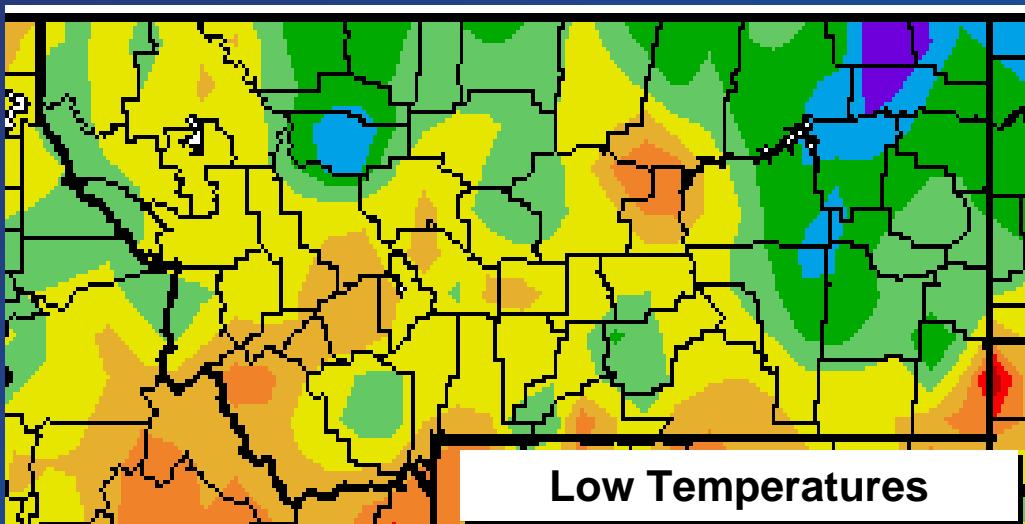
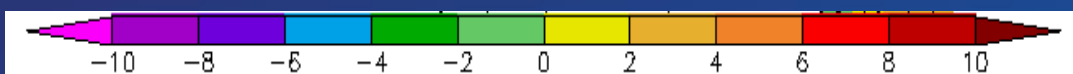
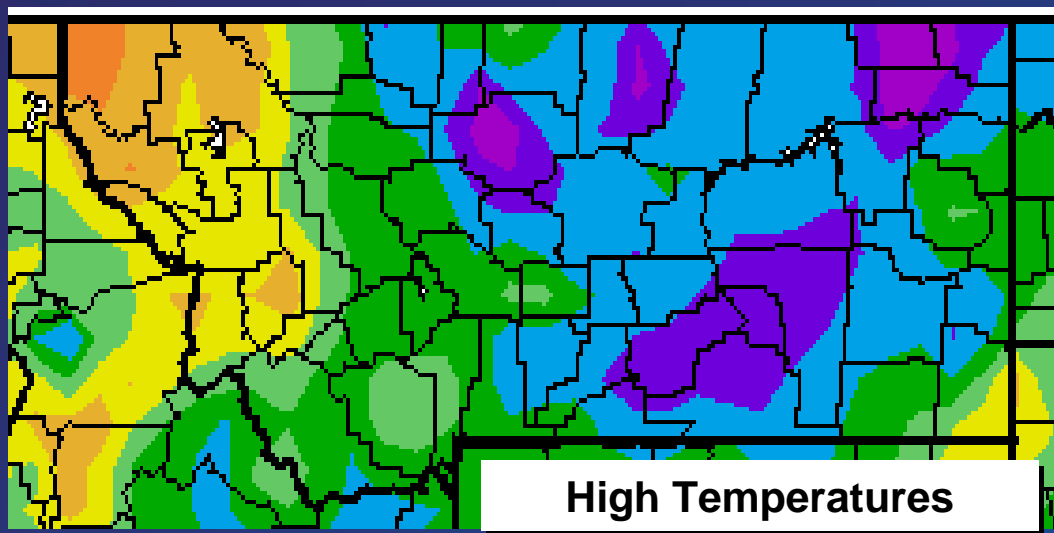


April-August 2006



Departure from Average Temperature

October 1 – 17

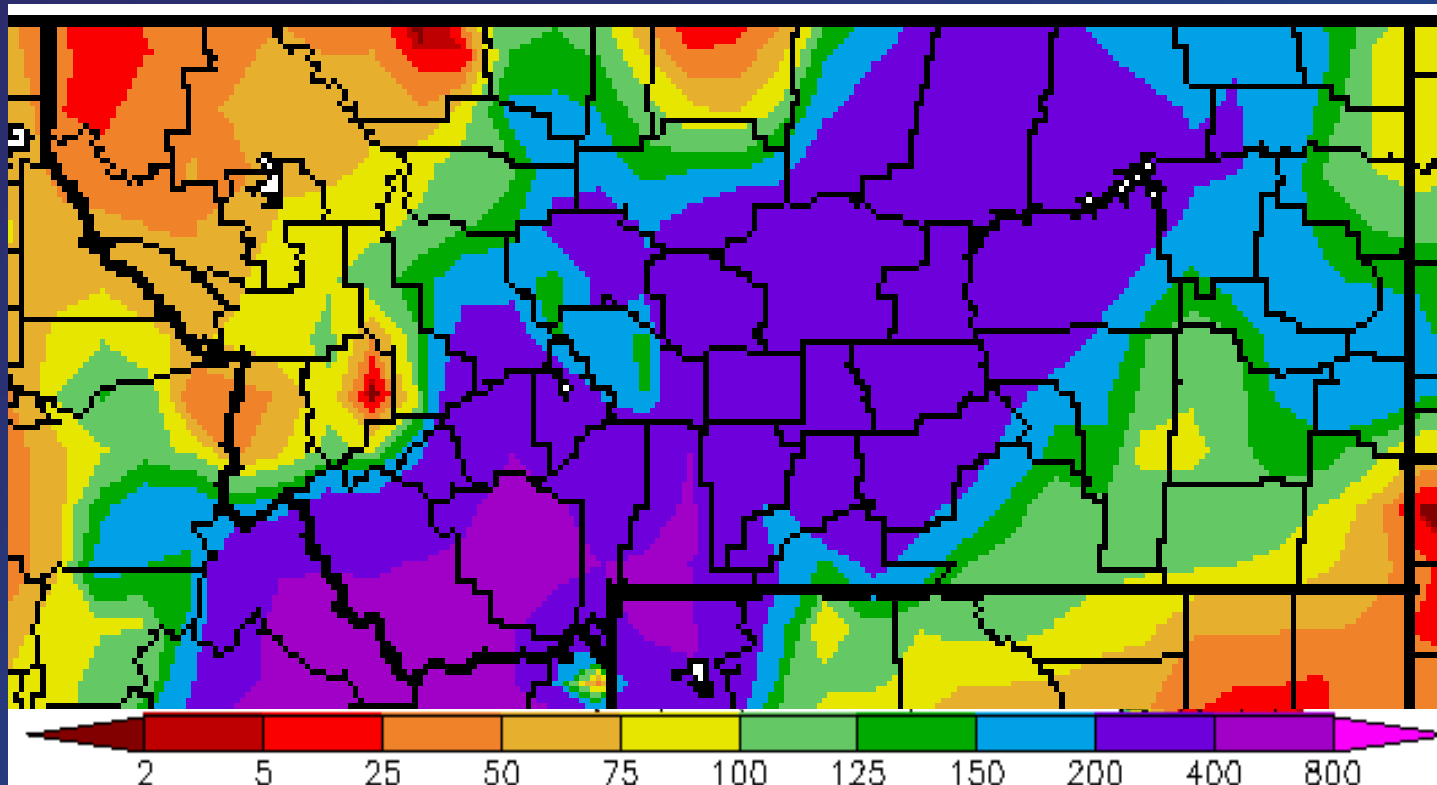


- West of the divide – Near to above normal
 - Highs – 2 to 6 degrees above normal extreme northwest... near normal elsewhere
 - Lows – Near normal
- East of the divide – Near to below normal
 - Highs – 4 to 10 degrees below normal central and east
 - Lows – 2 to 8 degrees below normal north and east



Percent of Average Precipitation

October 1 - 17, 2006



- Series of storms brought widespread precipitation to the state... especially band from southwest to central to northeast
 - Large areas at 200% or more of normal
- Northwest and southeast drier
 - Areas at less than 25% of normal northwest



Precipitation Totals

October and Water Year 2006

	OCTOBER 1 - 17				WATER YEAR TO DATE			
	ACTUAL PCPN	NRML PCPN	+/- NRML	% OF NRML	ACTUAL PCPN	NRML PCPN	+/- NRML	% OF NRML
WESTERN MONTANA								
BUTTE	1.50	0.51	0.99	294	1.50	0.51	0.99	294
KALISPELL	0.22	0.51	-0.29	43	0.22	0.51	-0.29	43
MISSOULA	0.42	0.34	0.08	124	0.42	0.34	0.08	124
MULLAN PASS	0.63	1.77	-1.14	36	0.63	1.77	-1.14	36
SOUTHWEST MONTANA								
BIG SKY	2.08	0.85	1.23	245	2.08	0.85	1.23	245
BOULDER	1.22	0.34	0.88	359	1.22	0.34	0.88	359
BELGRADE FIELD	2.31	0.68	1.63	340	2.31	0.68	1.63	340
BOZEMAN MSU	3.18	0.93	2.25	342	3.18	0.93	2.25	342
DILLON AIRPORT	1.51	0.37	1.14	408	1.51	0.37	1.14	408
ENNIS	2.80	0.60	2.20	467	2.80	0.60	2.20	467
HELENA	1.07	0.35	0.72	306	1.07	0.35	0.72	306
ROGERS PASS 9 NNE	1.24	0.73	0.51	170	1.24	0.73	0.51	170
TOWNSEND	0.97	0.34	0.63	285	0.97	0.34	0.63	285
W YELLOWSTONE	1.71	0.68	1.03	251	1.71	0.68	1.03	251
WISDOM	1.00	0.43	0.57	233	1.00	0.43	0.57	233



Precipitation Totals

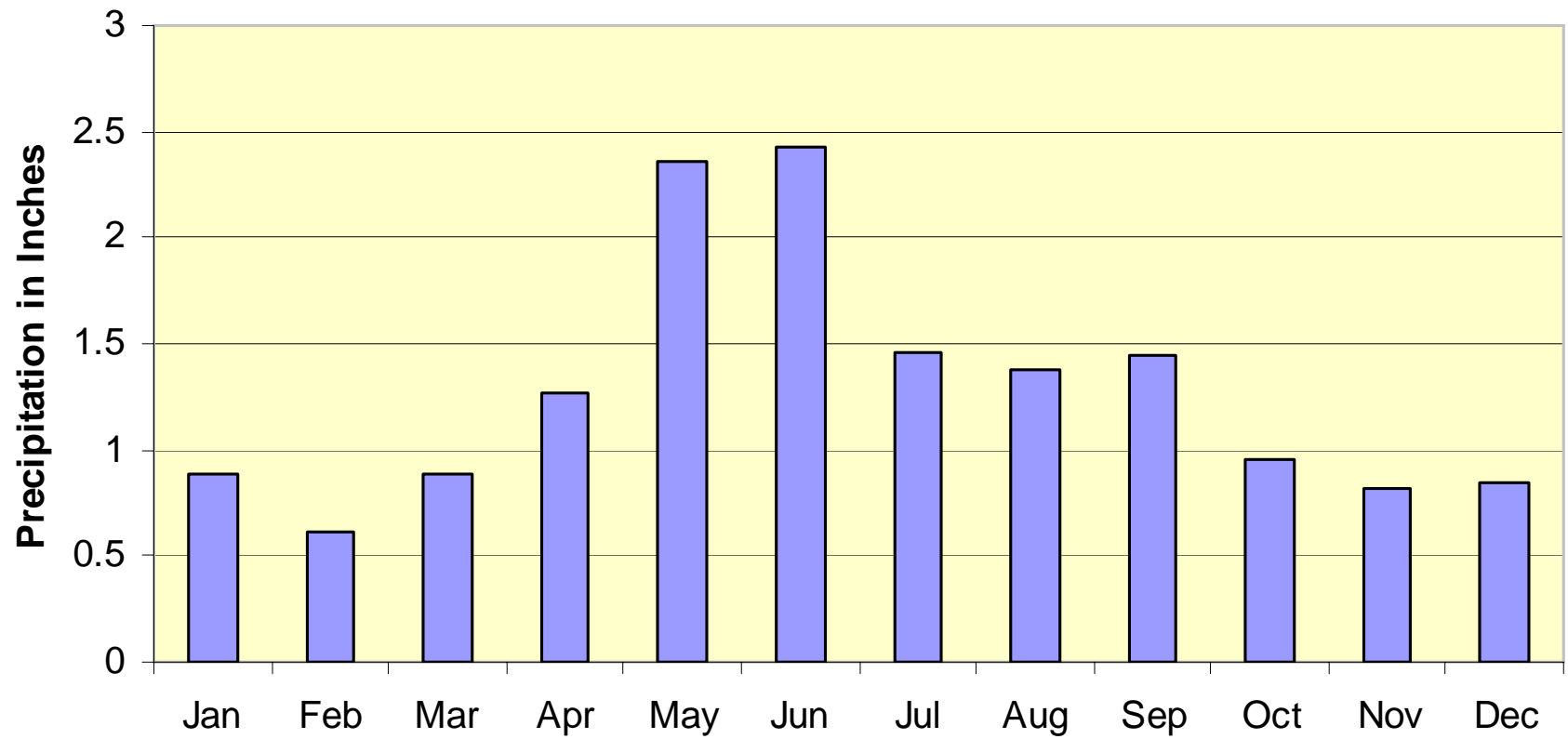
October and Water Year 2006

	OCTOBER 1 - 17				WATER YEAR TO DATE			
	ACTUAL PCPN	NRML PCPN	+/- NRML	% OF NRML	ACTUAL PCPN	NRML PCPN	+/- NRML	% OF NRML
CENTRAL MONTANA								
BILLINGS	1.78	0.75	1.03	237	1.78	0.75	1.03	237
CASCADE 20 SSE	0.75	0.58	0.17	129	0.75	0.58	0.17	129
CHINOOK	0.71	0.44	0.27	161	0.71	0.44	0.27	161
CHOTEAU	0.40	0.34	0.06	118	0.40	0.34	0.06	118
CUT BANK	0.05	0.33	-0.28	15	0.05	0.33	-0.28	15
FORT ASSINNIBOINE	0.35	0.49	-0.14	71	0.35	0.49	-0.14	71
FORT BENTON	0.84	0.51	0.33	165	0.84	0.51	0.33	165
GOLD BUTTE 7 N	0.54	0.46	0.08	117	0.54	0.46	0.08	117
GRASS RANGE	1.98	0.54	1.44	367	1.98	0.54	1.44	367
GREAT FALLS	1.28	0.53	0.75	242	1.28	0.53	0.75	242
HARLEM	0.81	0.41	0.40	198	0.81	0.41	0.40	198
HAVRE	0.30	0.37	-0.07	81	0.30	0.37	-0.07	81
LIVINGSTON	2.90	0.71	2.19	408	2.90	0.71	2.19	408
LEWISTOWN	2.01	0.64	1.37	314	2.01	0.64	1.37	314
MARTINSDALE 3 NNW	1.41	0.49	0.92	288	1.41	0.49	0.92	288
NEIHART 8 NNW	2.46	0.82	1.64	300	2.46	0.82	1.64	300
SHELBY	0.13	0.22	-0.09	59	0.13	0.22	-0.09	59
STANFORD	2.04	0.59	1.45	346	2.04	0.59	1.45	346
SWEET GRASS	0.52	0.41	0.11	127	0.52	0.41	0.11	127
VALIER	0.52	0.36	0.16	144	0.52	0.36	0.16	144
WHITE SULPHUR SPRGS	0.83	0.61	0.22	136	0.83	0.61	0.22	136
EASTERN MONTANA								
GLASGOW	0.95	0.43	0.52	221	0.95	0.43	0.52	221
MILES CITY	0.72	0.68	0.04	106	0.72	0.68	0.04	106



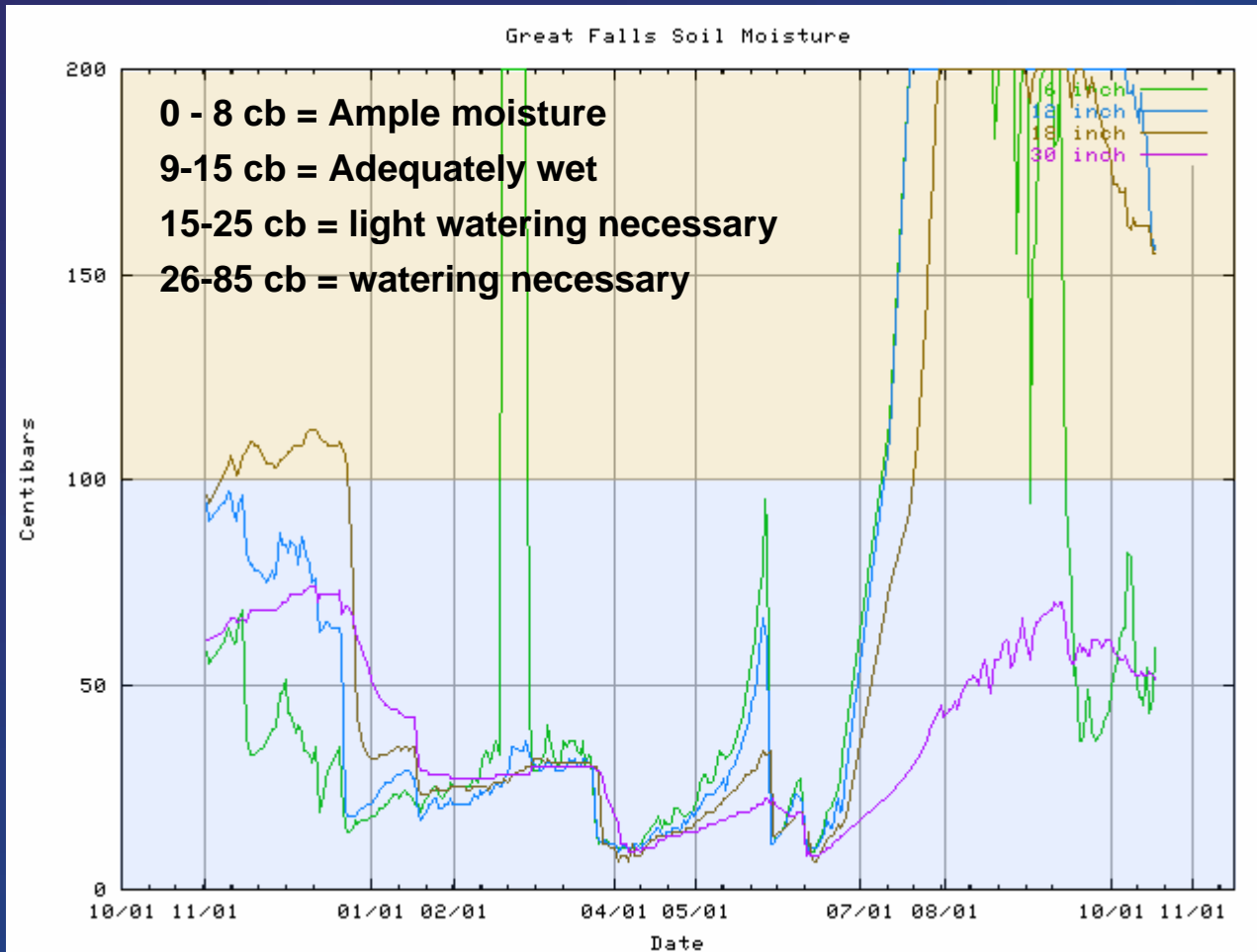
Statewide Average Precipitation

Statewide Average Precip





Great Falls Soil Moisture



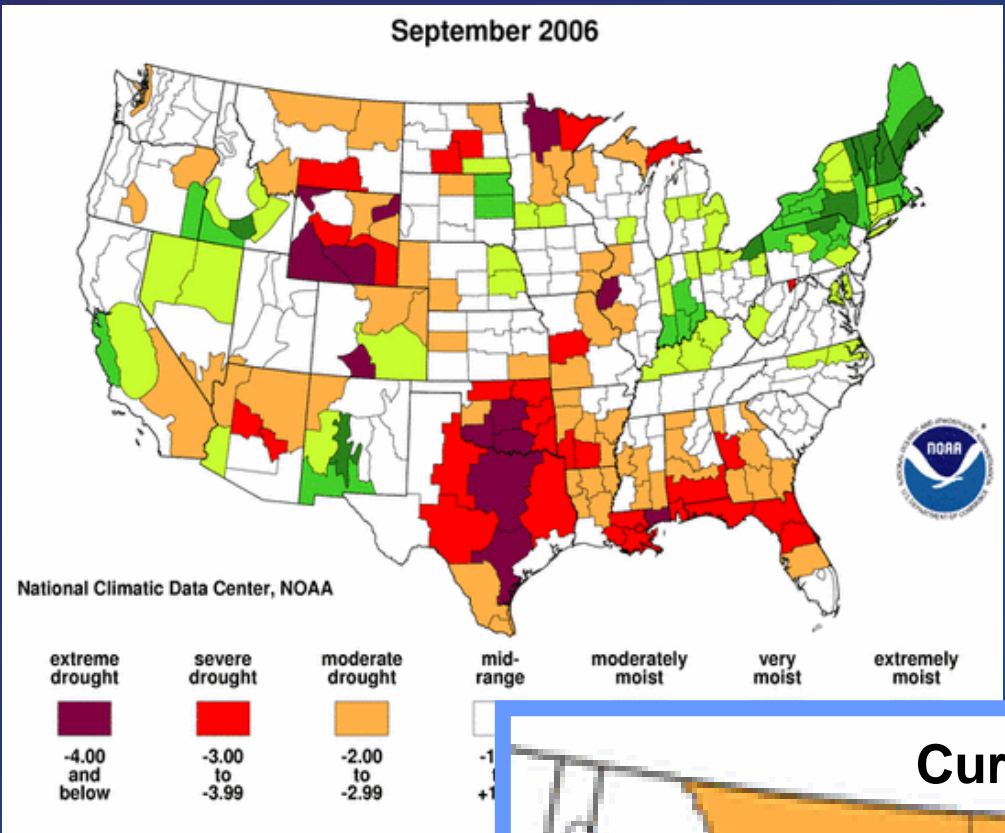
- 💧 Nice response to rain at 6"
- 💧 Some response at 12" and 18"
- 💧 Some response at 30"
- 💧 1.28" since Oct 1

6" = 60 cb
12" = 160 cb
18" = 158 cb
30" = 53 cb

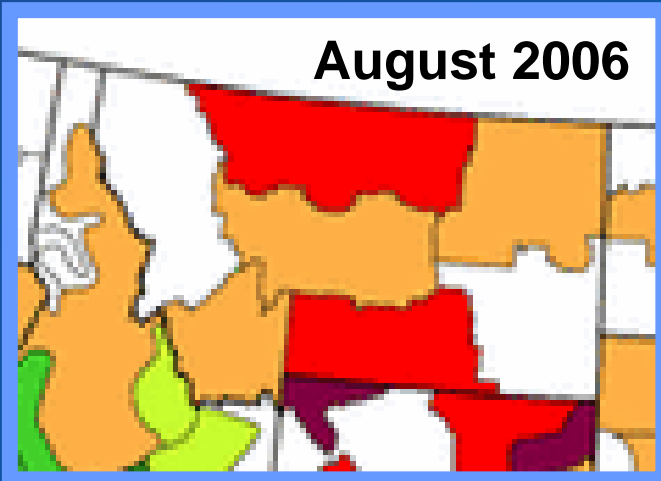
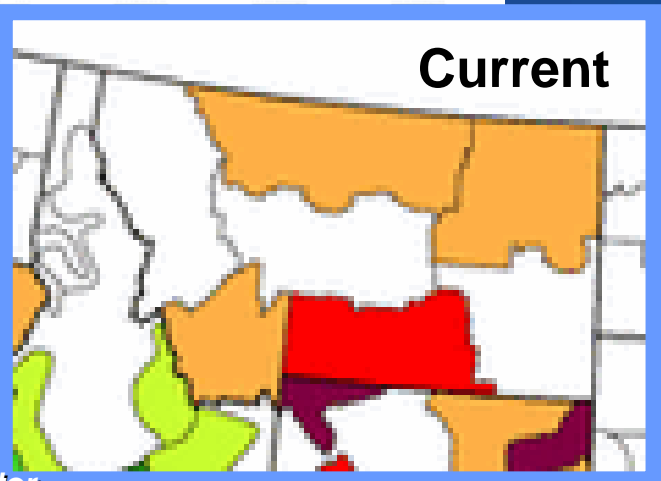


Palmer Hydrological Drought Index

September 2006



- 2 climate divisions improved a category
 - North central upgraded from 'Severe' to 'Moderate'
 - Central improved from 'Moderate Drought' to 'Mid-Range'
- One climate division still in 'Severe Drought'
 - South central



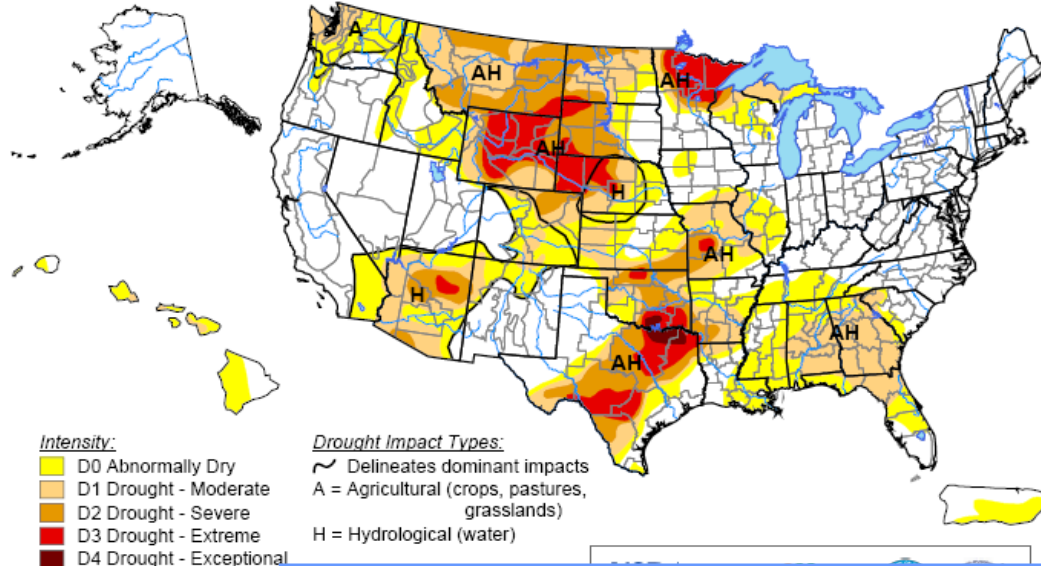


National Drought Monitor

October 17, 2006

U.S. Drought Monitor

October 17, 2006
Valid 8 a.m. EDT

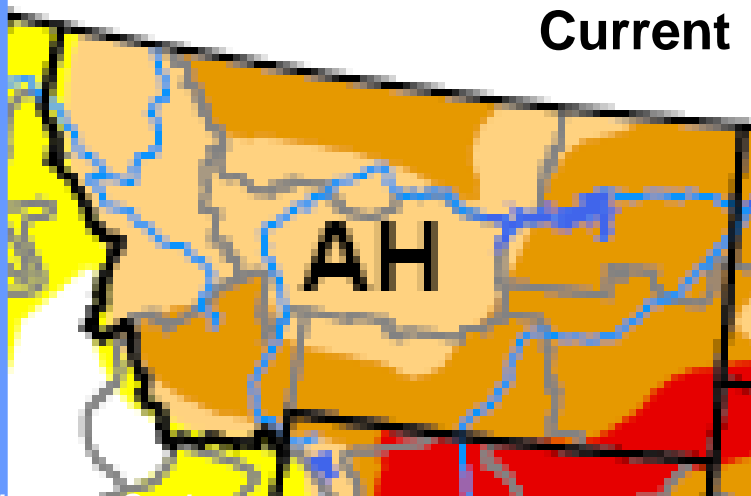


The Drought Monitor focuses on local conditions. Local conditions may vary. For forecast statements.

<http://drought.gov>

- All of Montana in at least 'Moderate' (D1)
- Some improvement noted in the northeast
 - Small area improved from Severe (D2) to Moderate (D1)
- Still some lingering Extreme (D3) in extreme southeast

Current



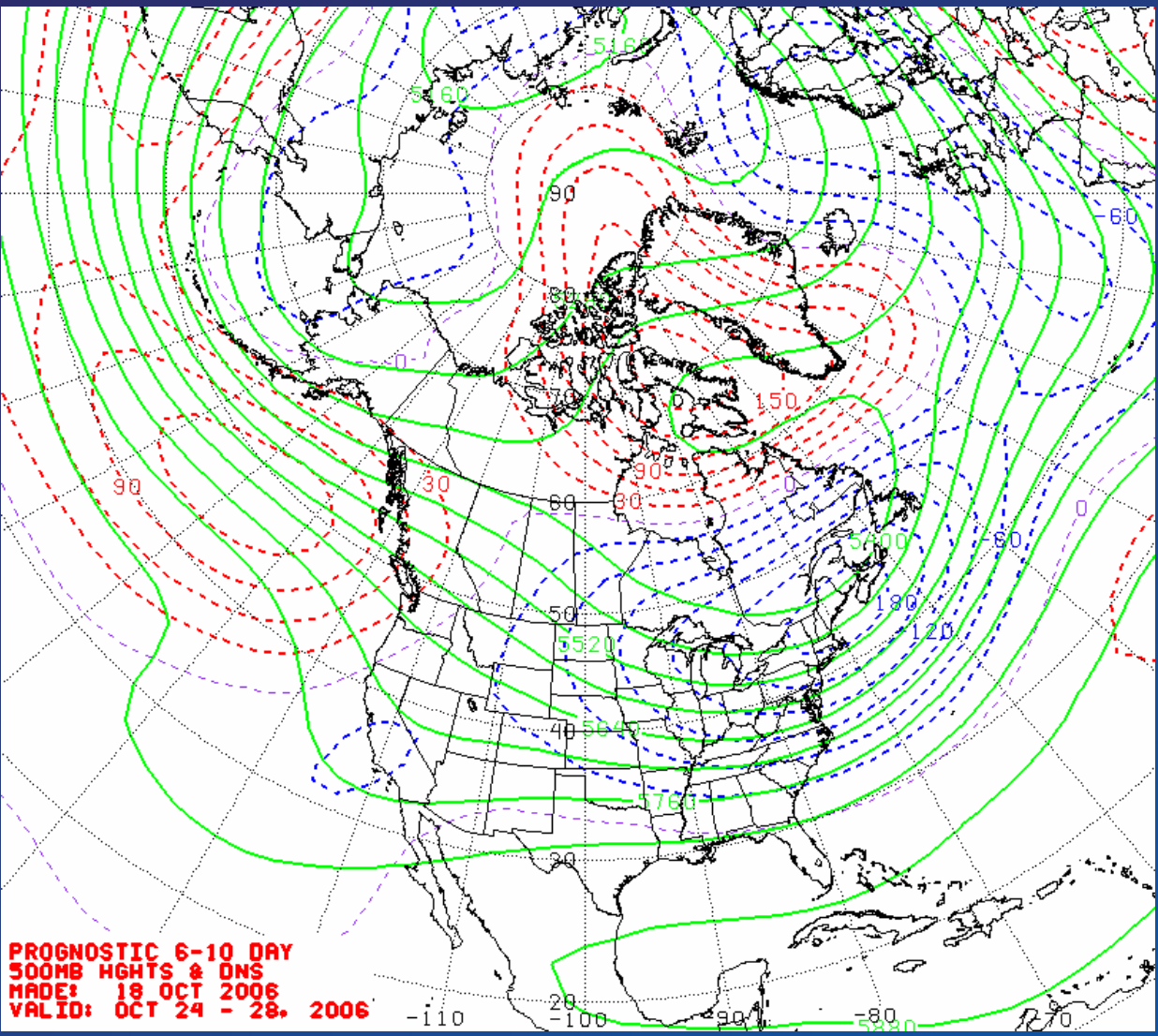
September 19, 2006





6 to 10 Day Outlook

500mb Heights and Anomalies



- October 24 - 28
- Low pressure trough over eastern U.S.
- Weak high pressure ridge to the west
- West to northwest flow
- Temperatures below seasonal normals

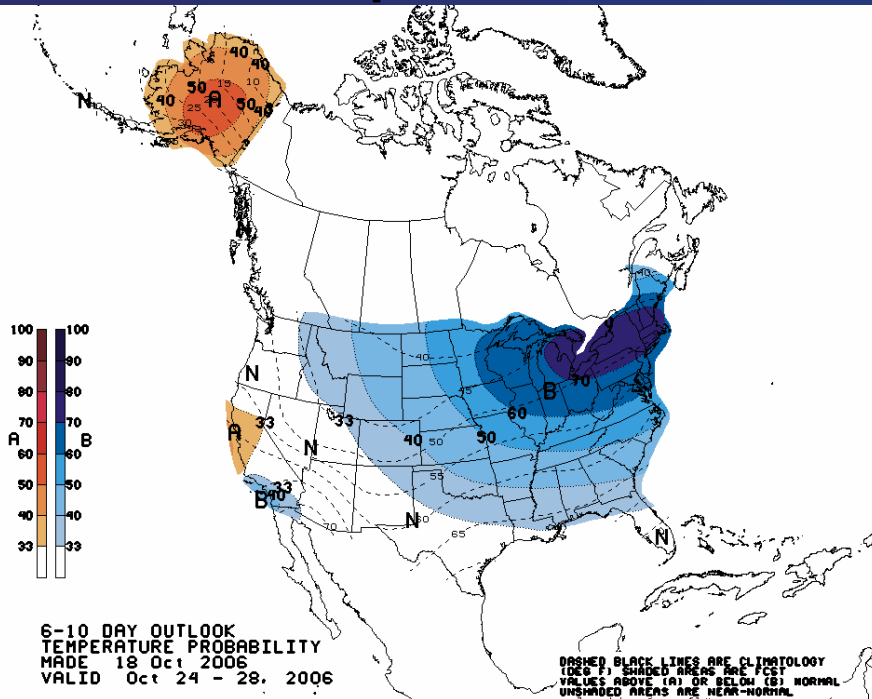
PROGNOSTIC 6-10 DAY
500MB HGTs & DNS
MADE: 18 OCT 2006
VALID: OCT 24 - 28, 2006



6 to 10 Day Outlook

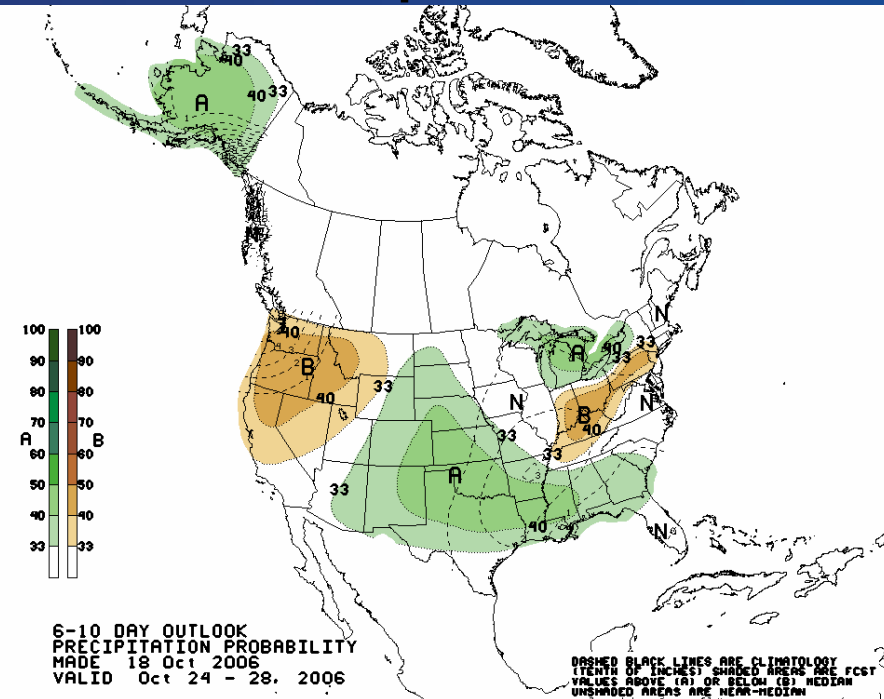
October 24 - 28

Temperature



- 33% to 40% chance for below normal temperatures over western half of Montana
- 40% to 50% chance for below normal temperatures over eastern half of Montana

Precipitation

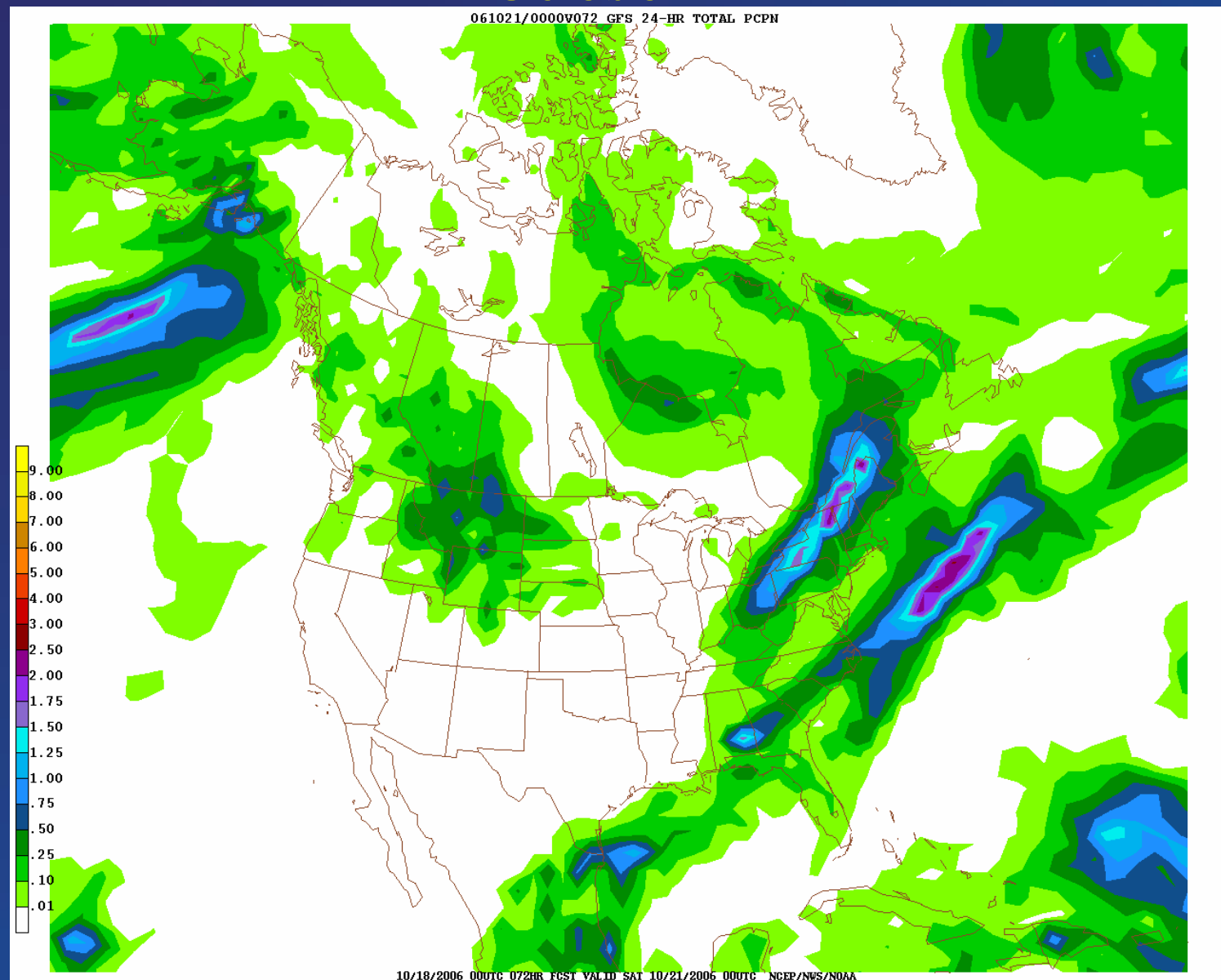


- 33% to 50% chance for below normal precipitation across western Montana
- 33% to 40% chance for above normal precipitation over extreme southeast Montana



24-hour Precipitation Forecast

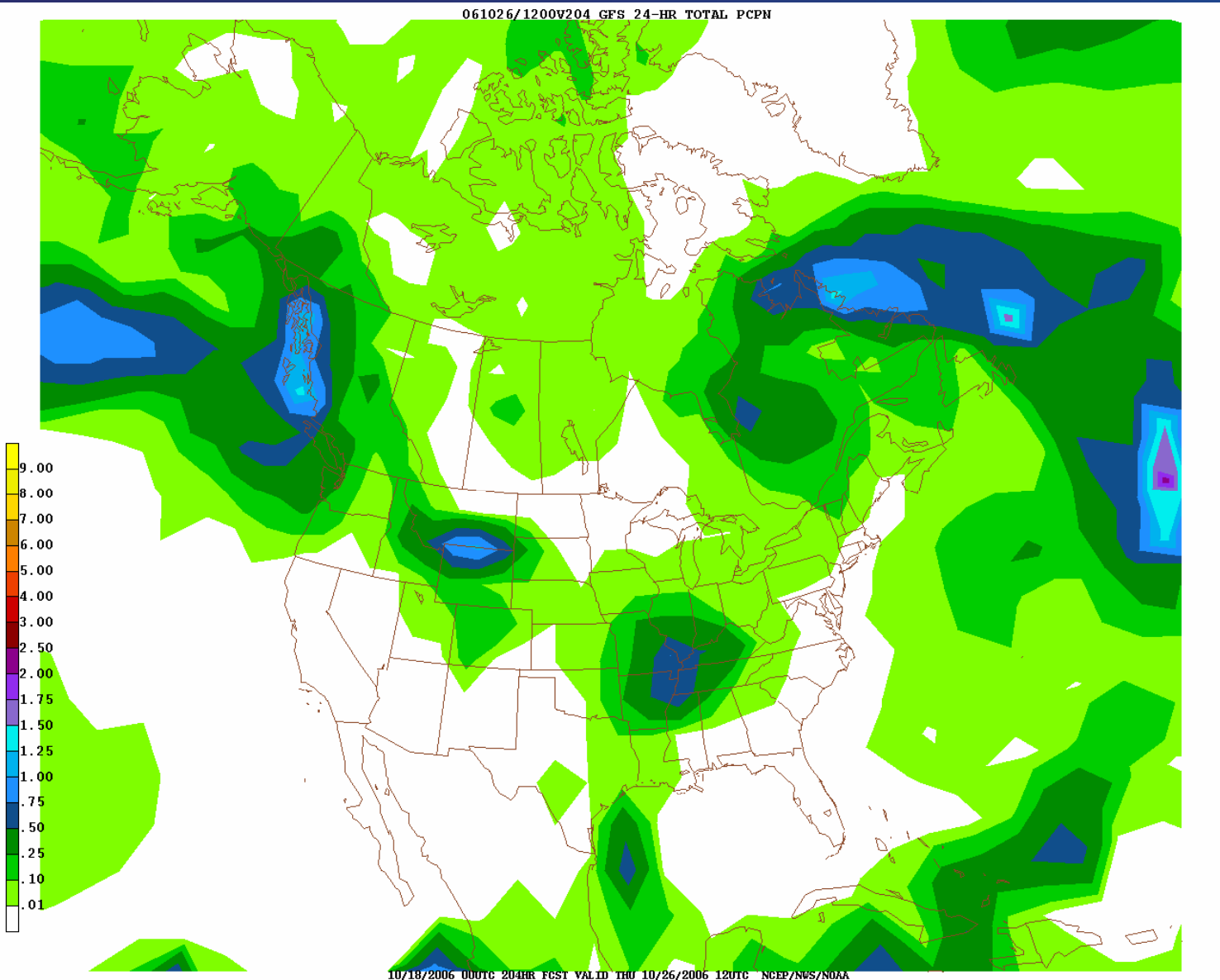
October 21





24-hour Precipitation Forecast

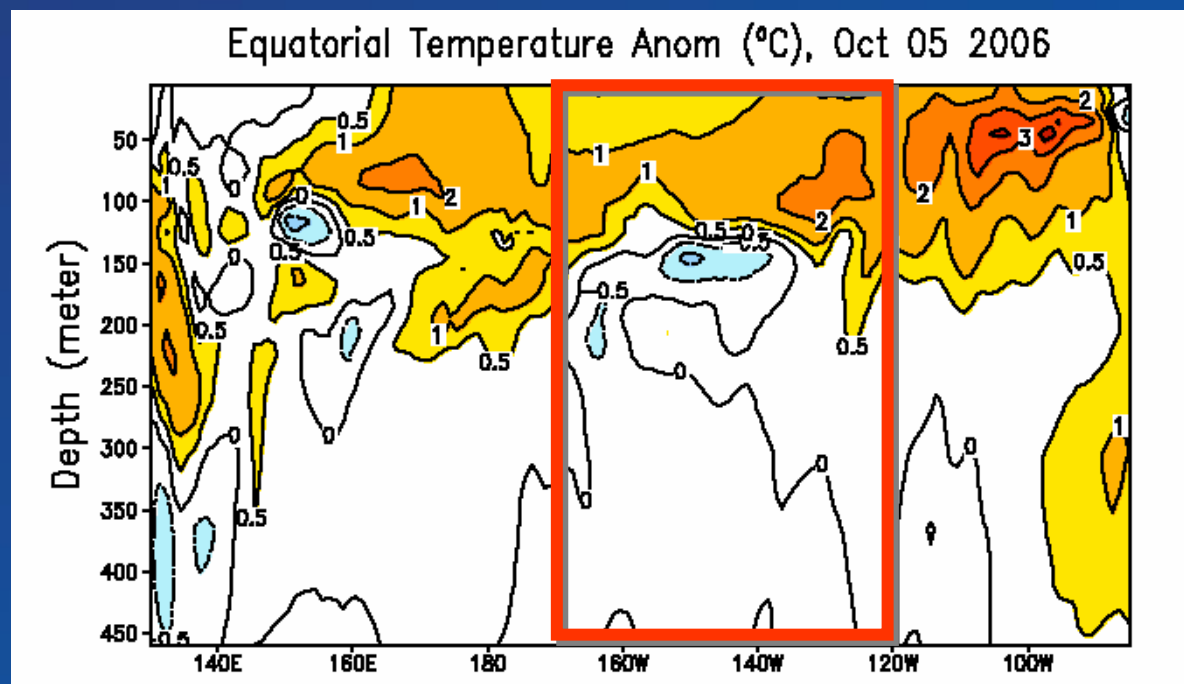
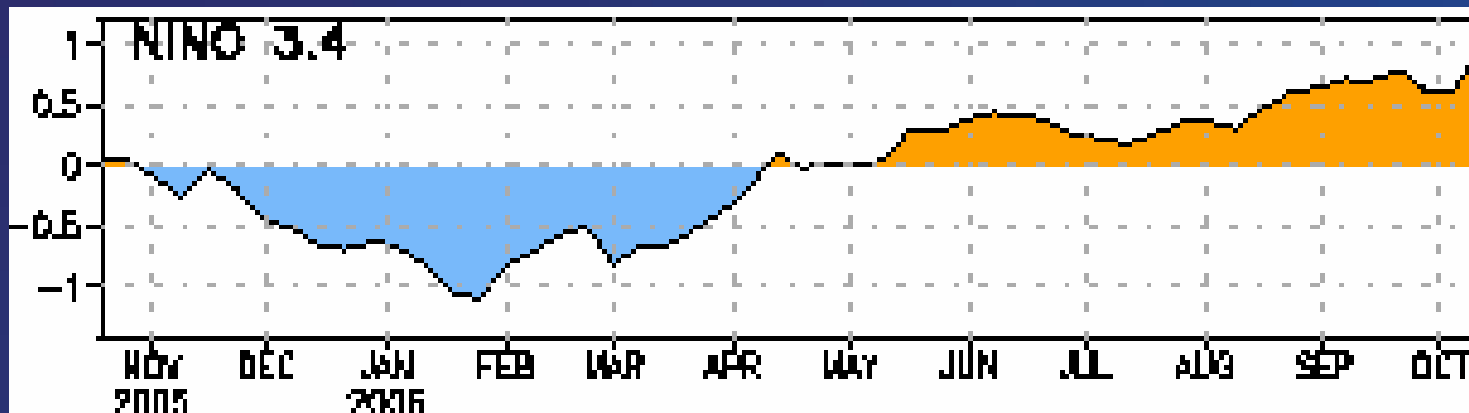
October 26





Current Status of El Niño/La Niña

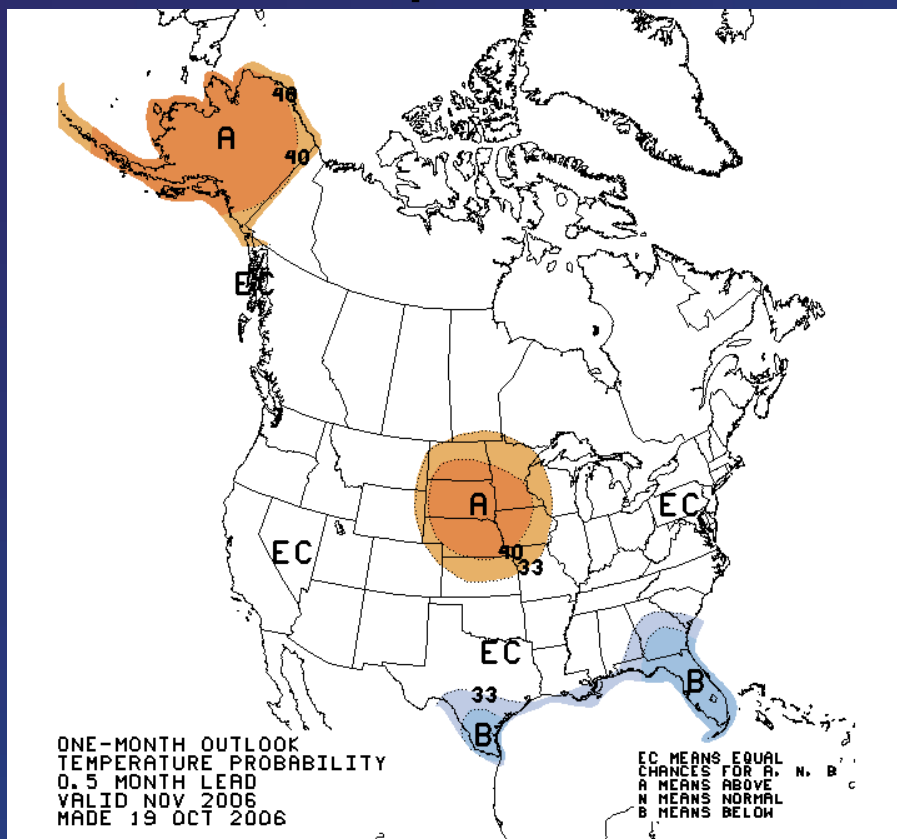
El Niño conditions likely to continue into early 2007





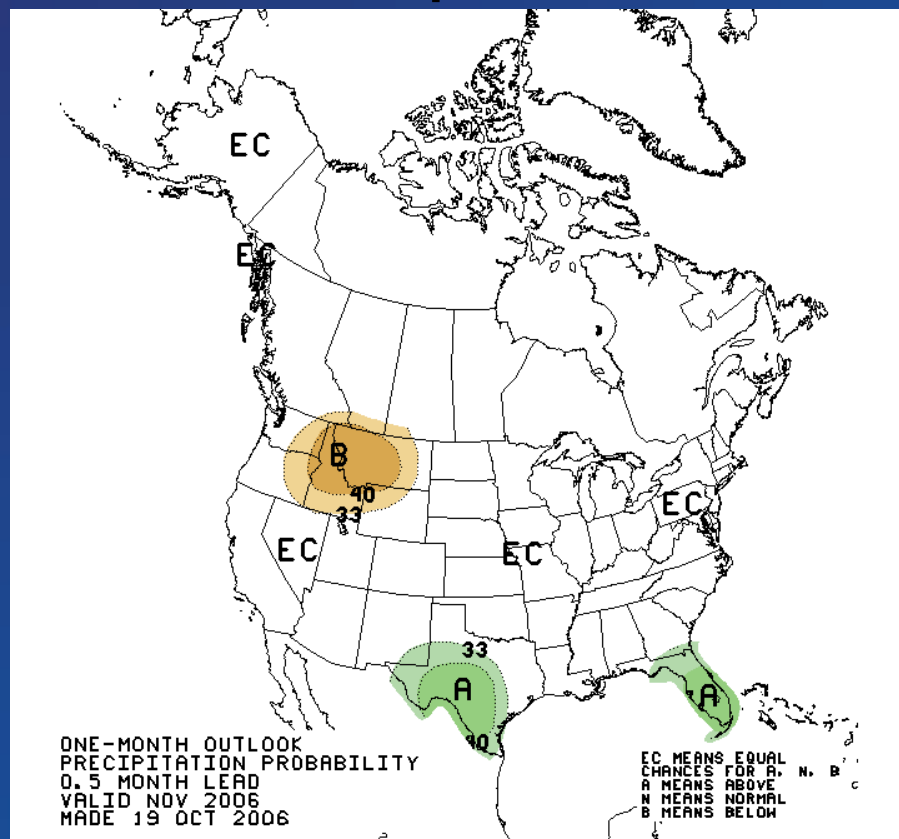
November Outlook

Temperature



- All of Montana – No forecast skill
 - *Equal chances for above... below or near normal temperatures*
- Highs in the upper 30s to mid 40s
- Lows in the upper teens to mid 20s

Precipitation

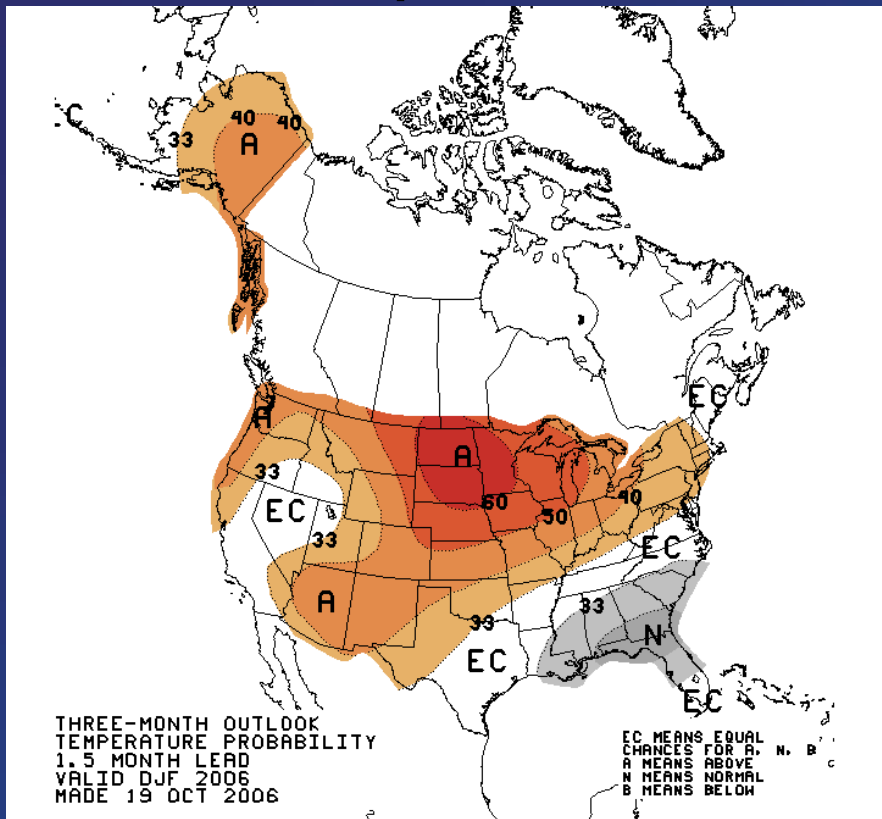


- West and central – 40% to 50% chance of below normal precipitation
- East – 33% to 40% chance of below normal precipitation
- 0.25" to 0.75"
 - *1" to 2" in the mountains*



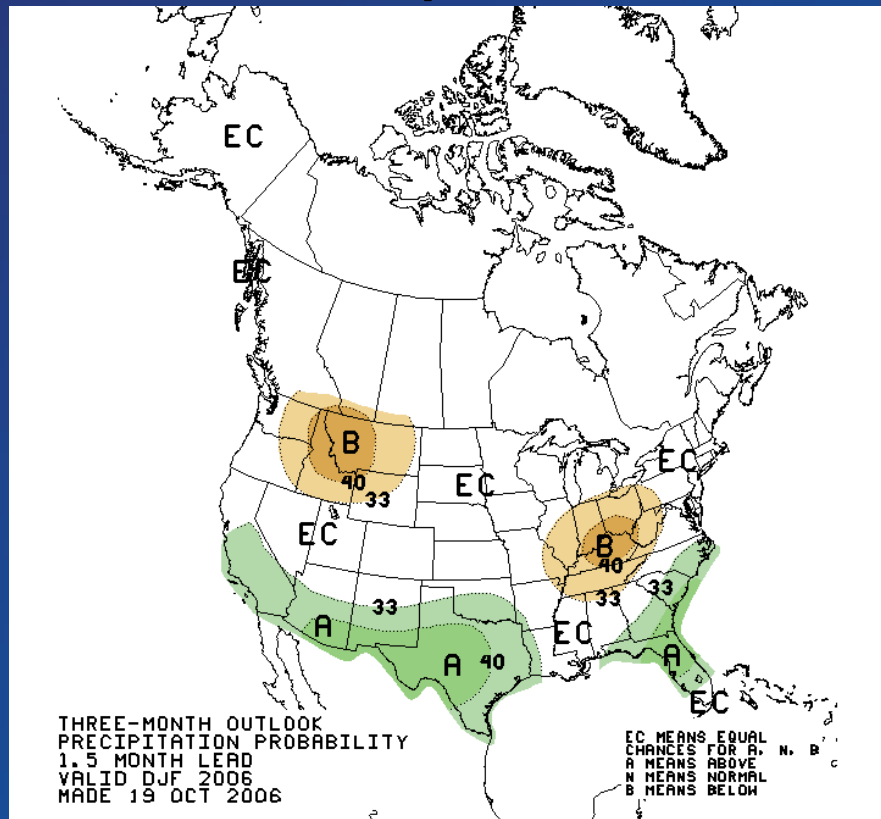
December – February Outlook

Temperature



- West and central – 33% to 50% chance of above normal temperatures
- East – 50% to 60% chance of above normal temperatures

Precipitation

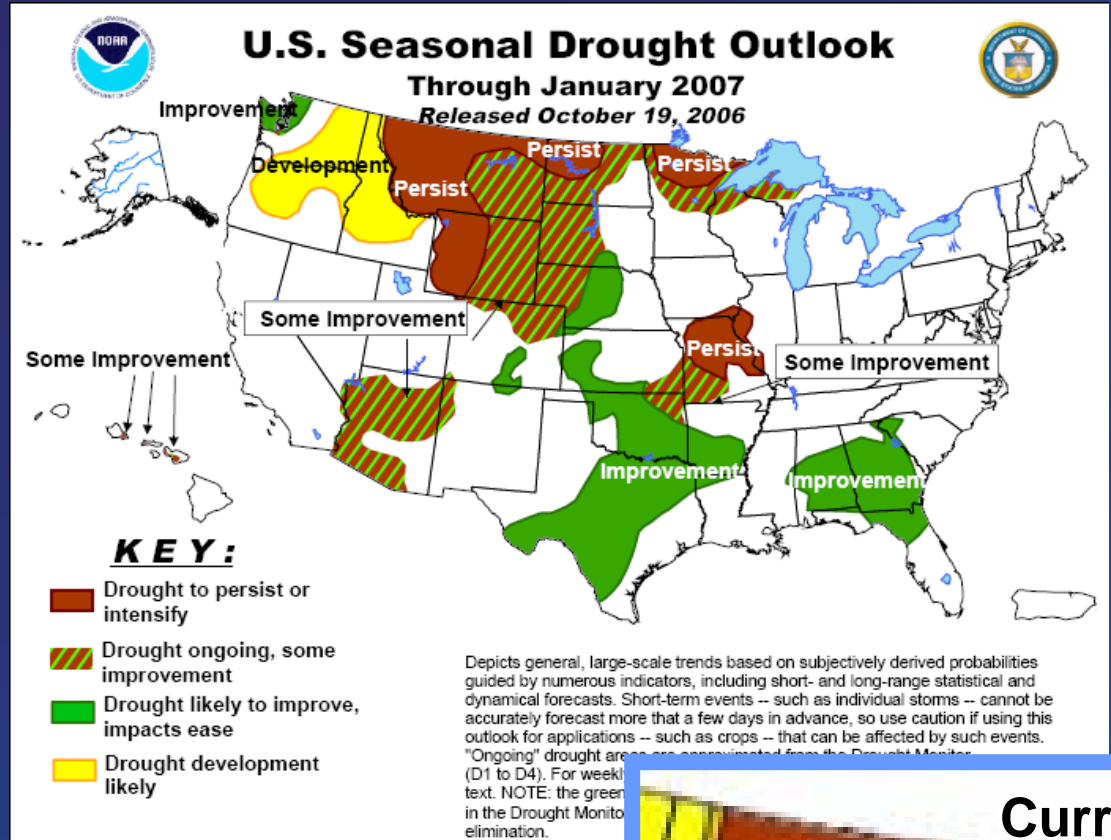


- West – 40% to 50% chance of below normal precipitation
- East – 33% to 40% chance of below normal precipitation

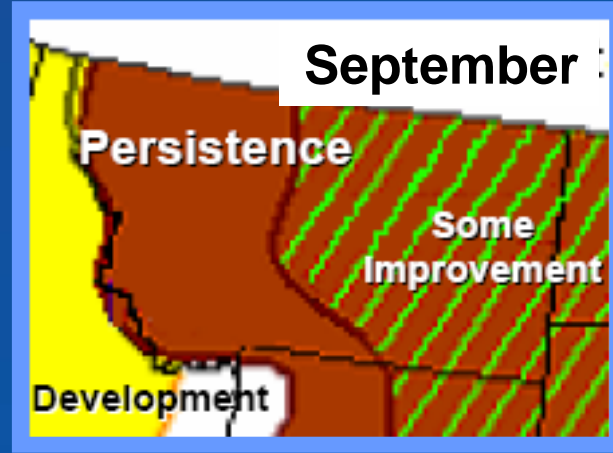
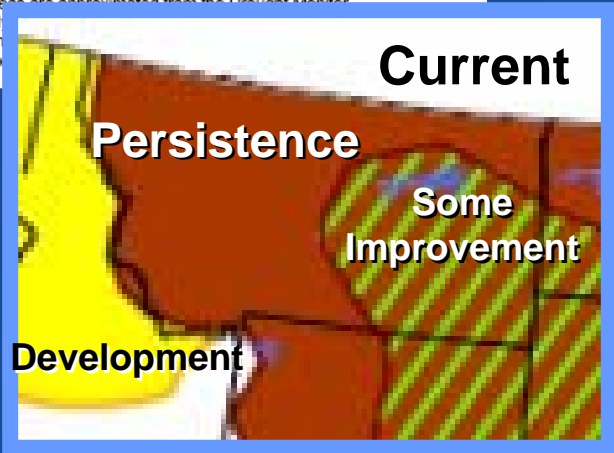


Drought Outlook through January

Issued October 19, 2006



- 💧 Persistence expected over most of Montana
- 💧 Some improvement expected southeast





In Summary...

- September brought much needed precipitation
 - *Especially to eastern Montana*
- Water year ended with near normal precipitation over most of state
 - *Small areas below normal*
- Crop Year moisture lacking
 - *Most of state below to well below normal*
 - *September precipitation brought some improvement south central, east, northeast*
- Continued chances for precipitation for at least the next week



weather.gov

weather.gov/billings

weather.gov/glasgow

weather.gov/missoula

weather.gov/greatfalls



**Glacier National Park from
Duck Lake**